

Advances in Mobility Management for IP Networks

Editors:

Aisha Hassan Abdalla Hashim

Othman Khalifa

Shihab A. Hameed



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EVALUATION HANDOVER LATENCY IN M-HMIP 6 WITH CONTEXT TRANSFER

AZANA HAFIZAH MOHD AMANAND, AISHA HASSAN ABDALLA HASHIM

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22.1 INTRODUCTION

Handover latency commonly described as the time take by a mobile host to resume traffic after the handover event has occurred. In this chapter it is defined as the duration from the reception of the last packet before handover via the old access point to the reception of the first packet via the new access point. This is calculated by the time interval between the last packet received at the previous Multicast Mobile Anchor Point (M-MAP) and the first packet received at the new M-MAP.

This time difference is extracted from the trace-file produced during the simulation process using a trace-file analyzer written in Awk script, as shown in Fig. 1. To achieve seamless mobility, the handover latency value should be kept as low as possible. High handover latency may affect real-time interactive applications including voice and video calls, multimedia applications, online gaming, etc. The amount of acceptable latency depends on specific application since their acceptable rate differs from each other.

```
# File name : custom.awk

BEGIN {

droppedTESTPackets=0;
AGTsends=0;
AGTrecvs=0;
RTRsends=0;
RTRrecvs=0;
MACsends=0;
MACrecvs=0;
ALLMACr;
ALLMACs;
# highest packet id can be checked in the trace file for an approximate value
highest_packet_id =1000000;
sum=0;
TEST_agt=0;
TEST_rtr=0;
TEST_mac=0;
}

{
    action = $1;
    time = $2;
    node_1 = $3;
    node_2 = $4;
    src = $5;
```

Fig. 22.1: Example of AWK script.